FIN 6545 Fixed Income Security Valuations
Dr. David Brown

Course Overview and Philosophy
This course covers the valuation of fixed income securities. The course begins with a treatment of basic bond math and term structure theory concepts. The initial material provides the student with a strong background in the valuation of "plain vanilla" bonds. The remainder of the course considers the effects of attached options and default risk the valuation of bonds.

The valuation of fixed income securities is done on a relative value basis. The idea is to determine the value of a security given the valuation(s) of other securities. If your valuation is higher (lower) than the market price of the security, then the security is "cheap" ("rich"). The relative value approach is common since so many investment managers are benchmarked against an index rather than on a total return basis.

Relative value investing translates the investor's views into portfolio strategies. There are three basic views an investor can have: the direction of future interest rate changes, the volatility of interest rates and the credit quality of the issuer.

Investors bet their views on the direction of future interest rate changes by the maturity mix of bonds in the portfolio. Investors bet their views on volatility of interest rates by the extent the hold bonds with embedded options. Investors bet their views on issuer credit quality by both the extent to which the portfolio contains corporate bonds and the specific names in the corporate bond portfolio.

The materials covered in this class naturally also provide insights into two related areas. First, the course is useful for thinking about the kinds of bonds an issuer might issue. The valuation problem from the standpoint of the investor is the mirror image of the issuer's problem. A good (bad) bond to buy is a bad (good) bond to issue. Second, the exposure of a portfolio to market factors can be easily quantified given the material learned in this course.

Students are expected to have read the assigned readings and lecture notes prior to class. The class will move along at a rapid pace and cover some very advanced topics. If you have trouble understanding any material it is your responsibility to ask questions in class or seek outside help from the instructor. Absent any feedback from the class other wise, I will assume that all students are comfortable with the material and the pace of the course.

Readings
Bond Markets, Analysis and Strategies Fifth Edition by Frank J. Fabozzi.
The lecture outlines can be downloaded from my homepage. Another very good book is Fixed Income Markets and Their Derivatives, by Suresh Sundaresan and published by Southwestern. A good treatment of very basic spreadsheet modeling and spread bond calculation capacities is "Spreadsheet Modeling the Fundamentals of Investments" by Craig Holden and published by Prentice Hall.

Grading
Your course grade will depend on your score on four assignments and a final exam detailed below. All five graded exercises are individual work. It is a violation of the University of Florida Honor Code to consult other students on these assignments.
Assignment One: Bond Math Problem Set15% of course grade
Assignment Two: Term Structure Problem Set 15% of course grade
Assignment Three: Term Structure Models Problem Set 15% of course grade
Assignment Four: Callable Bonds Problem Set 15% of course grade
Final Exam 40% of course gradeHanded out 8/5 and due on 8/6 at 5 PM

Course Outline

Course Overview and Bond Math Part I
Brown Chapter 1: Pages 1-10m Chapter 10
Lecture Outlines: OVERVIEW BASIC ONE

Bond Math Part II
Brown Chapter 1: Pages 11-25
Lecture Outlines: BASIC TWO
Fabozzi Chapters 1,2 and 3 for the 6/29 and 7/01 materials
Sundaresan Chapters 1,2, 4 and 5

Duration and Convexity
Brown Chapter 3: Pages 1-7.
Lecture Outline: DURATION
Fabozzi Chapter 4
Sundaresan Chapter 4 provides a very good treatment of Excel bond functions for duration and in general.

Term Structure Theory and Evidence
“Treasury Bill Versus Private Money Market Yield Curves” Rowe, Lawler and Cook
Brown Chapter 2
Lecture Outline: TERM STRUCTURE
Fabozzi Chapter 5
Sundaresan Chapter 6

Interest Rate Determination
Lecture Outline RATES

Term Structure Models
Lecture Outline TERM STRUCTURE MODELS
Sundaresan Chapter 17

Term Structure Models Applications
Lecture Outline TERM STRUCTURE APPLICATIONS
“The Cost and Duration of Cash-Balance Pension Plans,” Brown, Dybvig and Marshall

Curve Strategies
Lecture Outline CURVE